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Patent
Attorney's Docket No. 005950-544

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	)	
	)	
Scott R. BRUNDAGE et al.	)	Group Art Unit: 1764
	)	
Application No.: 09/603,585	)	Examiner: Ellen M. McAvoy
	)	
Filed: June 26, 2000	)	Confirmation No. 3095
	)	
For: BLENDING OF ECONOMIC, ETHER FREE WINTER GASOLINE	)	

BRIEF FOR APPELLANT

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This appeal is from the decision of the Primary Examiner dated June 28, 2002 (Paper No. 8), finally rejecting claims 1-19, 23-35 and 39-51, which are reproduced as an Appendix to this brief.

A check covering the [ ] $160.00 (2402) [X] $320.00 (1402) Government fee is not enclosed. However, the Director is hereby authorized to charge any appropriate fees under 37 C.F.R. §§1.16, 1.17, and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800. A copy of this page and the signature page are submitted in duplicate.

I. Real Party in Interest

The present application is assigned to Chevron USA, Inc.

II. Related Appeals and Interferences

The undersigned legal representative or assignee does not know of any other appeal or interferences which will affect or be directly affected by or have bearing on the Board's decision in the pending appeal.

III. Status of Claims

Original claim 1 was amended by an Amendment filed with the U.S. Patent and Trademark Office on April 12, 2002. At that time, claims 20-22 and 36-38 were canceled without prejudice or disclaimer. No additional amendments were made after the final rejection of June 28, 2003. The claims under appeal are set forth in the appendix to this Brief.

IV. Status of Amendments

No amendment was filed subsequent to the final rejection.

V. Summary of the Invention

The present invention is based at least in part upon the recognition that the blending process of some or all of the gasoline component streams of an oil refinery can be controlled, while eliminating ethers, to successfully provide an economic, continuous blending process for a low emission gasoline substantially free of ether compounds which is in compliance with a California predictive model. (Page 4 of the specification, lines 6-11). The difficulty arises in eliminating ethers, as a significant difference in blending is required in the absence of ethers to achieve the requisite octane rating while also meeting the California predictive model specifications. MTBE in particular is a high octane, low boiling, moderate RVP component and its elimination presents considerable obstacles to

successfully blending a gasoline, particularly a high octane gasoline. (Page 4 of the specification, lines 11-16). Yet, it has been discovered that appropriate blending can occur to provide a commercially economic, low-emission gasoline blend suitable for winter using the gasoline-component streams of a refinery when controlling the amount of sulfur to no greater than 10 ppm. Generally, testing on either a periodic or continuous basis of the blended streams, with subsequent adjustments in the blends based on the results of the testing, is employed in order to maintain compliance with the California predictive model. (Page 4, lines 16-24, and page 12, line 29). This is particularly preferred as the streams in a refinery can change in composition over time. Indeed, a low sulfur content of no greater than 10 ppm, has been found to be a very important aspect of one's successful ability to efficiently blend gasoline component streams of an oil refinery, while eliminating ethers, to provide a low emission gasoline. It is through the control of the amount of sulfur that one can effectively and efficiently blend such gasolines, particularly on a continuous basis, while containing no ethers, yet meeting the requirements of a California predictive model. The control of sulfur to such low limits has less than 10 ppm allows one to easily and effectively blend compliant gasoline from refinery streams. (Page 12, line 29 - page 13, line 3; page 13, lines 19-21).

VI. The Issues

Issue 1: Whether claims 1-19, 23-35 and 39-51 are unpatentable under 35 U.S.C. § 103(a) in light of Jessup et al. (U.S. Patent Nos. 5,288,393; 5,593,567; 5,653,866; or 5,837,126), taken in view of the CARB Properties and Specifications for Phase 3 Reformulated Gasoline set forth in the specification on page 7.

Issue 2: Whether it is appropriate for claims 1-19, 23-35 and 39-51 to be rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-16, 20-35, 39-54 and 58-71 of copending application no. 09/603,556.

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VII. Grouping of Claims

Claims 1, 2, 4, 6, 8, 10, 12-19, 23-35 and 39-51 should be considered separately from claims 3, 5, 7, 9, and 11. The foregoing two sets of claims do not stand or fall together.

VIII. Argument

Prior Art Rejection

While the Jessup patents in total, i.e., U.S. Patent Nos. 5,288,393; 5,593,567; 5,653,866 and 5,837,126, disclose controlling certain properties of a gasoline fuel in order to lower emissions, it is submitted that all of the patents fail to disclose or suggest controlling the amount of sulfur such that it is less than 10 ppm, as recited in claim 1. It is through the control of the sulfur to such a low level that one can effectively and efficiently blend the gasolines of the presently claimed invention, which contain no ethers, yet still meet the requirements of the California predictive model. A control of sulfur to such low limits to allow one to easily and effectively blend the compliant gasolines from refinery streams is nowhere disclosed in Jessup et al.

As noted previously, low sulfur content of no greater than 10 ppmw, has been found to be a very important aspect of one's successful ability to efficiently blend gasoline component streams of an oil refinery, while eliminating ethers, to provide a low emission gasoline. It is through the control of the amount of sulfur that one can effectively and efficiently blend such gasolines, particularly on a continuous basis, while containing no ethers, yet meeting the requirements of the California predictive model. The control of sulfur to such low limits to allow one to easily and effectively blend compliant gasoline from refinery streams is nowhere disclosed in Jessup et al. No suggestion at all of the importance in controlling sulfur exists in the Jessup et al. patents, let alone a suggestion of controlling the amount of sulfur to such low levels of less than 10 ppm.

Accordingly, it is submitted that one of ordinary skill in the art reading Jessup et al. would not be directed to the practice of Appellants' claimed invention, or the production of

Appellants' claimed gasoline. There is simply no motivation whatsoever provided in the prior art to restrict and control the amount of sulfur to such low levels of less than 10 ppm. Without a recognition in Jessup et al. of the importance of controlling sulfur, and the advantages and benefits realized thereby, the skilled artisan is not provided the guidance or motivation to practice the claimed invention.

The Examiner further applies the CARB Properties and Specifications for Phase 3 Reformulated Gasoline set forth in the specification on page 7, as sufficient motivation to control the amount of sulfur such that it is less than 10 ppm as now recited by amended claim 1. However, it is submitted that even in light of the specifications, there is no motivation to go below 10 ppmw sulfur and thereby practice the claimed invention. Refiners would not, unless the benefits were sufficiently appreciated, further restrict and control sulfur than that required by the specifications. Rather, the refiners would push against the upper limits in blending gasoline. It is only through the realization of the advantages of the present invention, however, and the teachings of the present application, that one of ordinary skill in the art would indeed be motivated to go even further than that required by the California Phase 3 Regulations, and restrict and control the amount of sulfur to less than 10 ppmw in the gasoline. For once the refiner understands that such restriction would indeed provide benefits in being able to blend the gasolines in order to create a low emission gasoline which meets the California Predictive Model, whether Phase 2 or Phase 3, the necessary steps will be taken to ensure that the blending of the gasoline creates a gasoline having far less sulfur than that allowed by the CARB regulations, and hence practice the claimed invention. To go less than 10 ppmw sulfur is a greatly added burden to the refiner, and such burdens are not welcomed unless there is sufficient motivation. There is no such motivation in the prior art, even looking at the specifications for the CARB Phase 3 gasolines, as the specifications allow far more sulfur than that of the claimed invention. It is only upon a reading of the present specification that the requisite motivation to practice the claimed invention is received by the skilled artisan.

Accordingly, it is respectfully submitted by Appellants that the prior art of the Jessup et al. patents, even taken in view of the CARB Phase 3 Regulations, does not suggest or motivate the claimed artisan to practice the present invention.

Furthermore, it is submitted that the California Phase 3 Regulations cannot be applied with regard to claims 1, 2, 4, 6, 8, 10, 12-19, 23-35 and 39-51. The present application is a continuation-in-part of U.S. Serial No. 09/240,059, filed on January 29, 1999. Claims 1, 2, 4, 6, 8, 10, 12-19, 23-35 and 39-51 all find support in U.S. Serial No. 09,240,059, the filing date of which precedes that of the CARB Phase 3 Gasoline Regulations. It is submitted that 09/240,059 specifically discloses the need and desire to be free of ethers such as MTBE, and that such can be accomplished by controlling the amount of sulfur to less than 10 ppm. Therefore, it is believed that support exists in the parent application. Thus, with regard to the foregoing claims, only the Jessup et al. patents may be applied as prior art, and for the reasons discussed above, Appellants submit that Jessup et al. in no manner discloses or suggests the invention claimed in claims 1, 2, 4, 6, 8, 10, 12-19, 23-35 and 39-51.

With regard to the remaining claims, i.e., claims 3, 5, 7, 9 and 11, the arguments set forth above with regard to the lack of motivation in the CARB Phase 3 Regulations is believed to apply, and thus these claims as well patentably distinguish the prior art.

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Double Patenting Rejection

The Examiner has also rejected the claims of record under the judicially created doctrine of obviousness-type double patenting, the rejection being over the claims of copending application serial no. 09/603,556. A timely filed Terminal Disclaimer in compliance with 37 C.F.R. § 1.321(c) may be used to overcome such a rejection, and Appellants submit that such a Terminal Disclaimer will be filed once allowable subject matter is deemed to exist in the subject application. Once allowable subject matter is deemed to exist, the allowed subject matter can then be compared to the claims of copending U.S. application no. 09/603,556. Thus, it is requested that this provisional

rejection be held in abeyance until allowable subject matter is indicated, at which time the filing of a Terminal Disclaimer will be made should the Examiner still deem such a filing appropriate and necessary.

IX. Conclusion

In light of the foregoing, Appellants respectfully request reversal of the Examiner's rejection of claims 1-19, 23-35 and 39-51 under 35 U.S.C. § 103.

Respectfully submitted,

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APPENDIX A

The Appealed Claims

1. (Amended) A method of blending unleaded gasolines which are substantially free of ether compounds and which have a Reid vapor pressure of greater than or equal to 7.00 and less than or equal to 15.00 psi, which method comprises

(a) blending some or all gasoline component streams from an oil refinery and keeping the blend substantially free of ethers and with a sulfur content no greater than 10 ppm, and

(b) controlling the blending of the streams such that the blended unleaded gasolines are in compliance with a California Predictive Model.

2. The method of Claim 1, wherein the blending is such that the blended unleaded gasolines are in compliance with the Phase 2 California Predictive Model.

3. The method of Claim 1, wherein the blending is such that the blended unleaded gasolines are in compliance with the Phase 3 California Predictive Model.

4. The method of Claim 1, wherein the blending of the streams from an oil refinery is on a continuous basis.

5. The method of Claim 1, wherein testing of the blended unleaded gasoline is conducted for compliance with the California Phase 3 Predictive Model, and necessary adjustments in the blends based on the results of the testing are made to maintain compliance with the California Phase 3 Predictive Model.

6. The method of Claim 1, wherein testing of the blended unleaded gasoline is conducted for compliance with the California Phase 2 Predictive Model, and necessary adjustments in the blends based on the results of the testing are made to maintain compliance with the California Phase 2 Predictive Model.

7. The method of Claim 5, wherein the testing is conducted on a continuous basis.

8. The method of Claim 6, wherein the testing is conducted on a continuous basis.

9. The method of Claim 5, wherein the testing is conducted on a periodic basis.

10. The method of Claim 6, wherein the testing is conducted on a periodic basis.

11. The method of Claim 4, wherein testing of the blended unleaded gasoline is conducted for compliance with the California Phase 3 Predictive Model, and necessary adjustments in the blends based on the results of the testing are made to maintain compliance with the California Phase 3 Predictive Model.

12. The method of Claim 4, wherein testing of the blended unleaded gasoline is conducted for compliance with the California Phase 2 Predictive Model, and necessary adjustments in the blends based on the results of the testing are made to maintain compliance with the California Phase 2 Predictive Model.

13. The method of Claim 1, wherein the streams are blended so as to provide a gasoline having a Reid vapor pressure of less than 15.0.

14. The method of Claim 1, wherein the streams are blended such that the blended gasoline has a Reid vapor pressure and a range from about 8 to 13.5.

15. The method of Claim 1, wherein the streams are blended such that the blended gasoline has an octane in the range of 87 to 89 (R+M)/2.

16. The method of Claim 1, wherein the streams are blended such that the blended gasoline has an octane in the range of from 89 to 92 (R+M)/2.

17. The method of Claim 1, wherein the streams are blended such that the blended gasoline has an octane rating of greater than 92 (R+M)/2.

18. The method of Claim 1, wherein the streams are blended such that the blended gasoline is in compliance with the flat specification compliance option of CARB.

19. The method of Claim 1, wherein the streams are blended such that the blended gasoline is in compliance with the averaging specification compliance option of CARB.

23. The method of Claim 1, wherein the blended gasoline contains less than 5 ppm sulfur.

24. The method of Claim 1, wherein the streams are blended such that the blended gasoline contains less than 4 vol. % olefins.

25. The method of Claim 1, wherein the blended gasoline contains less than 3 vol. % olefins.

26. The method of Claim 1, wherein the blended gasoline contains less than 2 vol. % olefins.

27. The method of Claim 1, wherein the streams are blended such that the blended gasoline exhibits a T_{50} of less than 203° F.

28. The method of Claim 1, wherein the blended gasoline exhibits a T_{50} of less than 200° F.

29. The method of Claim 1, wherein the blended gasoline exhibits a T_{50} of less than 190° F.

30. The method of Claim 1, when the streams are blended such that the blended gasoline contains less than 0.5 wt. % benzene.

31. A blended gasoline composition prepared by the method of Claim 1.

32. The composition of Claim 31, wherein the gasoline has a Reid vapor pressure of less than 13.5.

33. The composition of Claim 31, wherein the blended gasoline composition has an octane of 87 to 89 (R+M)/2.

34. The gasoline composition of Claim 31, wherein the composition has an octane from 89 to 92 (R+M)/2.

35. The gasoline composition of Claim 31, wherein the gasoline has an octane of greater than 92 (R+M)/2.

39. The gasoline composition of Claim 31, wherein the composition contains less than 5 ppm sulfur.

40. The gasoline composition of Claim 31, wherein the composition contains less than 4 vol. % olefins.

41. The gasoline composition of Claim 31, wherein the composition contains less than 3 vol. % olefins.

42. The gasoline composition of Claim 31, wherein the composition contains less than 2 vol. % olefins.

43. The gasoline composition of Claim 31, wherein the composition exhibits a T_{50} of less than 203° F.

44. The gasoline composition of Claim 31, wherein the composition exhibits a T_{50} of less than 200° F.

45. The gasoline composition of Claim 31, wherein the composition exhibits a T_{50} of less than 190° F.

46. The gasoline composition of Claim 31, wherein the composition less than 0.5 vol. % benzene.

47. The method of claim 1, wherein the streams are blended so as to provide a gasoline having a Reid vapor pressure of greater than 7.2.

48. The gasoline composition of claim 31, wherein the streams are blended so as to provide a gasoline having a Reid vapor pressure of greater than 7.2.

49. The method of claim 1, wherein ethanol is blended with the gasoline.

50. The method of claim 1, wherein ethanol is blended with the gasoline at a different site.

51. The method of claim 50, wherein the ethanol is blended at a terminal site.

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